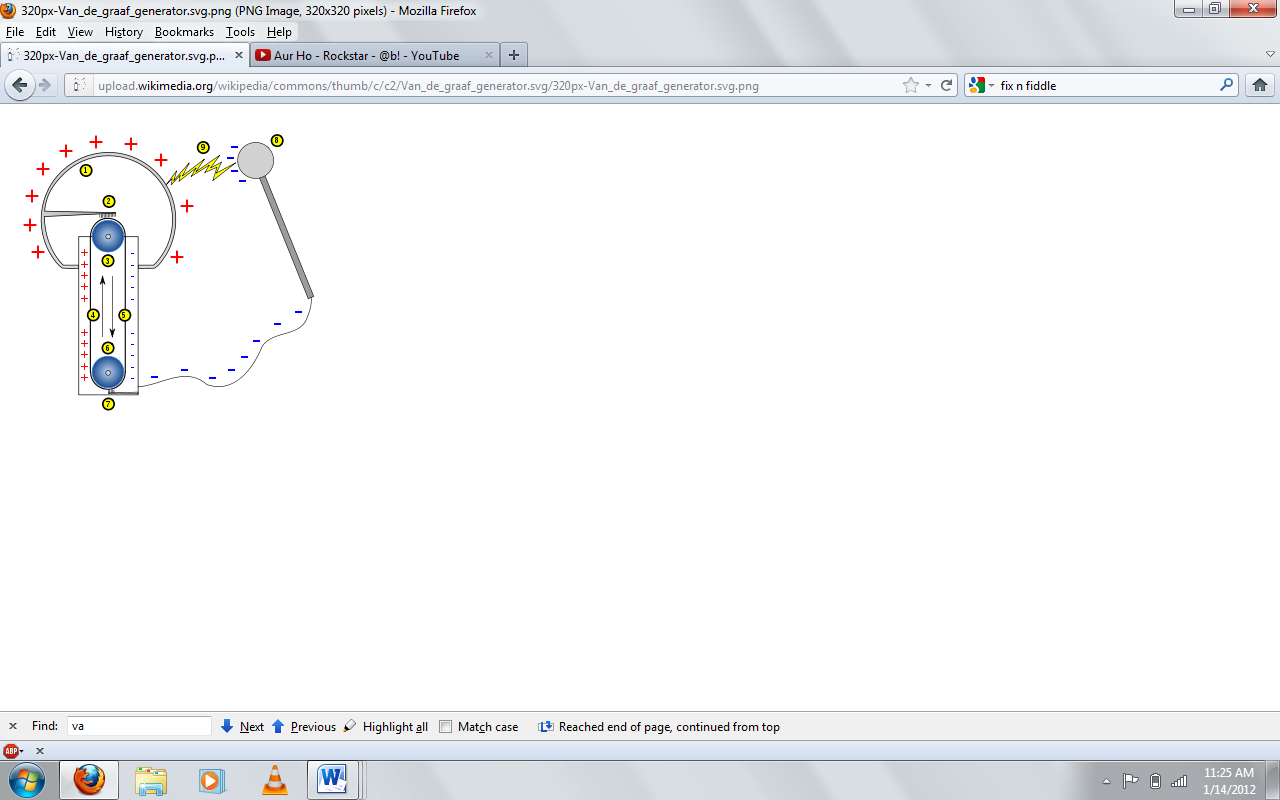
Van de Graff Generator**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_

**Station 4**

A **Van de Graff generator** uses a moving belt to accumulate positive electric charges in the metal top, producing static electricity that exceeds 100,000 volts. It works a lot like scuffing shoes on a carpet on a dry day. **For safety please remove all electronic devices**.

With help from your textbook (p. 119), locate and label the parts shown in the diagram below on the van de Graff generator.

1. metal sphere
2. upper electrode
3. upper roller
4. side of the belt with positive charges
5. side of the belt with negative charges
6. lower roller
7. lower electrode
8. spherical devices with negative charges
9. spark



Write the three laws for static electricity; remember static electricity consists of charges trapped in a substance moving rapidly.

|  |
| --- |
| **1.**  **2.**  **3.** |

Albert Einstein Hair Demo**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****\_\_\_\_\_\_**

**Steps to be followed:**

1. In your group have a volunteer stand on top of the plastic footstool. (No volunteers? Then Barbie doesn’t mind a bad hair day)

2. Place one hand palm down on the globe of the Van de Graaf **before you turn the generator on**.

3. **Now turn on** the Van de Graaf and wait for 1 to 2 minutes.

4. Have a helper angle the mirror so you can see the results.

**Note:** Please make sure you do not remove your hand from the globe, touch anyone or step down from the footstool while the machine is running. If your group has extra time use the pile of pie plates to see what happens.

|  |
| --- |
| 1. Describe what happens?  2. Which Law has this demonstrated?  3. Why did we use a plastic stool? |



Glowing Light **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Steps to be followed:**

1. **Turn on** the Van de Graaf generator.

2. Hold the fluorescent light tube and approach the charged Van de Graaf generator

**Note:** If possible, close the lights to see the best results.

|  |
| --- |
| 1. Describe what happens?  2. Which Law has this demonstrated?  3. Why did we not get electrocuted? (Hint: \_\_\_\_\_ Kills, not Voltage.) |